

Date: Sat, 22 May 93 07:37:23 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V93 #625
To: Info-Hams

Info-Hams Digest Sat, 22 May 93 Volume 93 : Issue 625

Today's Topics:

 BUY BACK 11 METERS! (was Re: Selling t
 Fox Tango Filters
How to find the answers to frequently-asked questions about Ham Radio
 National Balloon Symposium Registration Information
 packet connections for HT HTX202?
 Quagi antenna polarization question (2 msgs)
 Question: Can a novice take the extra test?
 Repeater Questions
 RFI from ZyXEL modem, please advise
 RFI from ZyXEL modem to 2way radio

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Thu, 20 May 1993 16:04:43 GMT
From: spool.mu.edu!clark!pacifier!mikef@uunet.uu.net
Subject: BUY BACK 11 METERS! (was Re: Selling t
To: info-hams@ucsd.edu

In article <1993May17.143845.23268@hemlock.cray.com> dadams@cray.com writes:
>In article 140593155615@donsmacfx.lasc.lockheed.com,
woodward@hercii.lasc.lockheed.com (Don Woodward Jr.) writes:
>|In article <1993May13.204520.3947@ttinews.tti.com>, sorgatz@avatar.tti.com
>|(Erik Sorgatz) wrote:
>|>
>|> This is actually GOOD NEWS in disguise...let's all write the ARRL and
>|> lobby for the OUTRIGHT PURCHASE of the 27.4051-28.0 MHz band segment!!

>|>
>|> In effect let's BUY BACK 11 METERS AS AN AMATEUR ALLOCATION! It's NOT
>|> CURRENTLY ASSIGNED. IT'S ADJACENT TO OUR 10 METER ALLOCATION and it's
>|> probably not a very attractive area for commercial applications..hence
>|> the price should be low enough to allow the Amateur community to afford
>|> it without worrying about the CBers outbidding us.
>|>
>|> Comments?
>|
>|I'd rather have 148-150mhz where we could unburden the 2 meter band of its
>|overcrowdedness.
>|
>
>Or what about 220-222 Mhz?
>
Hell, let's just buy 'em all. While we're at it, we could buy
the portions of the spectrum we already are entitled to. that
way, we could guarantee their use by amateurs in perpetuity :-) :-) :-)!

--
Mike Freeman | Amateur Radio Callsign: K7UIJ
301 N.E. 107th Street | Internet: mikef@pacifier.rain.com
Vancouver, WA 98685 USA | GENie: M.FREEMAN11
Telephone (206)574-8221 | Pushing 40 is exercise enough!

Date: Sat, 22 May 1993 00:10:14 GMT
From: tarpit!bilver!vicstoy!kc4zvw@uunet.uu.net
Subject: Fox Tango Filters
To: info-hams@ucsd.edu

-> Fox Tango was bought out by, I think it was, International Radio of Port
-> St. Lucie, Florida. I'll see if I can find an address and phone number
-> for them. I think they may still be listed in the supplier addresses in
-> the ARRL Radio Amateur's Handbook.

International Radio & Computer, Inc.
3804 South U.S. #1
Fort Pierce, FL 34983
(407) 489-0956 FAX# (407) 464-6386

Date: 22 May 93 09:44:07 GMT
From: pacbell.com!amdahl!amdahl!uts.amdahl.com@ames.arpa
Subject: How to find the answers to frequently-asked questions about Ham Radio
To: info-hams@ucsd.edu

Posted-By: auto-faq 2.4

How to find the Rec.radio.amateur.misc Frequently Asked Questions list

This article will tell you how to find the answers to frequently-asked Questions (FAQ) from rec.radio.amateur.misc. The FAQ articles are posted on the 7th of each month. This article is posted on the 22nd of every month as a reminder for where to find the FAQ.

The FAQ articles are intended to summarize some common questions on the rec.radio.amateur.misc newsgroup and Info-Hams mail list as well as to help beginners get started.

Besides the monthly posting, the FAQ is always available via anonymous FTP and from e-mail servers. This article contains instructions for obtaining a copy of the FAQ. It also contains the table of contents from the FAQ so that you know which questions are covered by it.

Please provide a copy of the FAQ to any new or soon-to-be Hams you know.

Regular FAQ postings can help save network bandwidth and maintain a good signal-to-noise ratio in the newsgroup. However, they can't do it alone - you, the reader, have to use them. If you are a new user, please print and review the FAQ articles and look at the instructions in the news.newusers newsgroup before posting any articles. If you are an experienced user, please help by refraining from answering frequently-asked questions on the newsgroup if they are already answered by the FAQ articles. Instead, send e-mail to the user who asked the question. (It will be helpful if you include the part of the FAQ that answers their question, but not the whole thing.)

--How to obtain a current copy of the FAQ-----

There are 3 ways to obtain a copy of the FAQ.

- 1) NetNews
- 2) Anonymous FTP
- 3) An Electronic Mail Server

Option #1: NetNews

If you are familiar enough with NetNews to look through previous articles on your system, Option #1 above may be the easiest for you. The FAQ is posted so that it should not expire from your site's news spool until the next one is posted. Unfortunately, some news administrators do not honor the expiration dates meant to preserve the FAQ.

Look in rec.radio.amateur.misc, rec.radio.info, rec.answers, or news.answers. If the FAQ has expired at your site, try Option #2 (and ask your news

administrator to honor expiration dates for articles cross-posted to news.answers if he/she can.)

Option #2: Anonymous FTP

Anonymous FTP uses the File Transfer Protocol. It is only available to sites which are directly connected to the Internet. If you don't know how to use FTP and can't find a friend to help you, continue to Option #3. If your site is not connected to the Internet, you should also continue to Option #3.

The following sites have copies of the FAQ:

site name & address	path to FAQ articles
-----	-----
ftp.amdahl.com (129.212.11.1)	pub/radio/amateur/faq.[1-6].Z
ftp.cs.buffalo.edu (128.205.32.9)	pub/ham-radio/faq_ham_[1-6]
rtfm.mit.edu (18.70.0.226)	pub/usenet/news.answers/ham-radio-faq/part*
grivel.une.edu.au (129.180.4.7)	pub/ham-radio/buffalo/ham-radio/faq_ham_[1-6]

Remember, when connecting to the remote system, use the login name of "anonymous" and, as a courtesy to the site administrators, your e-mail address for the password.

Option #3: Electronic Mail Server

If you can't use Options 1 or 2, your only remaining option is electronic mail. You can retrieve a copy of the FAQ by sending a message to
mail-server@rtfm.mit.edu

The body of your mail will contain a command for the mail server software. To get all of the FAQ (consisting of 70K of e-mail in 3 parts), place the following in the subject of your message:
send usenet/news.answers/ham-radio-faq/*

To obtain just one part, substitute the part number for the "1" in the following example:
send usenet/news.answers/ham-radio-faq/part1

Leave out the subject of your message because the mail server will ignore it.

--- begin sample mail message ---
To: mail-server@rtfm.mit.edu
From: me@here.org
Date: Mon Aug 14 22:27:33 PDT 1995

send usenet/news.answers/ham-radio-faq/*
--- end sample mail message ---

Table of Contents

Dates indicate last modification.

Part 1 - Introduction to the FAQ and Amateur Radio

- ** Table of Contents (1/93)
- ** Introduction to the FAQ (11/92)
 - * How to Contribute to the FAQ Articles (1/93)
 - * Acknowledgements (7/92)
 - * Notes on "Netiquette" (1/93)
- ** What is Amateur Radio? (11/92)
- ** Who can become a ham in the United States? (11/92)
- ** Where can I locate information and books on Amateur Radio? (4/92)
- ** How much does it cost? (4/92)
- ** Where can I take the tests? (pre-4/92)
- ** What are the tests like? (4/92)
- ** What can I do with a ham radio license? (5/92)
- ** What can't I do with an Amateur Radio license? (pre-4/92)
- ** I'm interested, who will help me? (11/92)
- ** Should I build my own equipment or antenna? (11/92)

Part 2 - Amateur Radio Organizations, Services, and Information Sources

- ** Where can I find Ham Radio information with a computer? (11/92)
 - * The rec.radio.* newsgroups (new 1/93)
 - * The ARRL e-mail server (1/93)
 - * The Internet File Transfer Protocol (FTP) (1/93)
 - * Access to FTP archives via electronic mail (1/93)
 - * The Info-Hams mail list: rec.radio.amateur.misc by mail (1/93)
 - * Telephone BBS's with Ham-related information (11/92)
 - * Callsign servers and geographical name servers (11/92)
 - * FTP access to FCC Part 97 and FCC Amateur Radio question pools (11/92)
 - * Lists of radio modifications and extensions (11/92)
- ** Can I send ARRL or W5YI electronic mail? (11/92)
- ** "Why doesn't the ARRL do...?" (11/92)
- ** What magazines are available for Ham Radio? (pre-4/92)
- ** How do I use the incoming and outgoing QSL bureau? (11/92)
- ** Are there any news groups for CAP? (11/92)
- ** What's the name of the QRP club that issues QRP numbers? (pre-4/92)
- ** How do I become a 10-10 member? (pre-4/92)
- ** How do I join MARS? (1/93)
- ** How do I join RACES? (pre-4/92)
- ** What organizations are available to help handicapped hams? (pre-4/92)
- ** I am looking for a specific ham, can anyone help me find him? (pre-4/92)
- ** Can I post my neat new ham related program on rec.radio.amateur.misc? (pre-4/92)
- ** Where can I get ham radio software for my computer? (4/92)

- ** Are there Dialup News services or BBSs for Amateur Radio? (4/92)
- ** Where can I find VE sessions in my local area? (6/92)
- ** Why isn't XXX available electronically? (4/92)

Part 3 - Amateur Radio Advanced and Technical Questions

- ** What are the different US amateur classes and what can each of them do? (pre-4/92)
- ** What is the best way to learn Morse Code? (10/92)
- ** What is the standard for measuring Morse code speed? (pre-4/92)
- ** I'm confused. What do all those abbreviations mean??? (5/92)
- ** What do all those "tones" mean? (pre-4/92)
- ** Where can I learn more about Amateur Radio if I live outside the US? (4/92)
- ** How can I get a "reciprocal license" if I am a licensed ham from another country or if I am a FCC licensed ham who wants to operate in another country (on vacation)? (11/92)
- ** My apartment or housing complex does not allow outdoor antennas, now what do I do? (pre-4/92)
- ** I got TVI...HELP!!! (pre-4/92)
- ** Did you know that you can get college credit for being a ham? (pre-4/92)
- ** On what frequencies do JPL and GSFC retransmit the shuttle audio? (10/92)
- ** Can I take my HT on an airplane and operate it if I get the permission of the captain? (4/92)
- ** How do I modify my current Amateur license? (4/92)
- ** I'm confused about XXX, should I ask the FCC? (4/92)
- ** Is there any information on antique radios? (pre-4/92)
- ** Where can I buy vacuum tubes? (pre-4/92)
- ** What do I need to get started in packet radio? (5/92)
- ** What do I need to get started in satellite communications? (pre-4/92)
- ** What is available to get started in ATV, SSTV and WEFAX? (5/92)
- ** What are these contests I sometimes hear, and how do I participate? (7/92)

--Submitting changes for the FAQ-----

If you have comments or updates for the FAQ, send e-mail to
hamradio-faq@amdahl.com

This will send mail to all the people on the FAQ editorial review group.

Date: Thu, 20 May 1993 02:10:20 GMT

From: usc!sdd.hp.com!hpscit.sc.hp.com!hplextra!hpfcso!hplvec!
tcline@network.UCSD.EDU

Subject: National Balloon Symposium Registration Information

To: info-hams@ucsd.edu

EDGE OF SPACE SCIENCES
NATIONAL BALLOON SYMPOSIUM
AUGUST 20, 21 & 22, 1993
DENVER, COLORADO

LOCATION:

Denver International Airport Holiday Inn
I-70 and Chambers Road
15500 East 40th Avenue
Denver, Colorado 80239
(303) 371-9494

SUBJECTS TO INCLUDE:

Amateur Radio Applications,
Basic Balloon Flight Procedures,
FAA & FCC Regulations,
Amateur Radio Applications,
Balloon and Payload Systems,
Applications to Education & Science,
Student Participation Projects,
Balloon Organization Development,
Payload Tracking & Recovery.

ACTIVITIES:

Friday Evening: Social Hour, Exhibits and Videos.

Saturday: Morning Sessions, Luncheon.
Afternoon Dual Track Sessions, (Technical and Education).
Social Hour, Banquet.
Exhibits and Videos.

Sunday: Morning Balloon Launch (conditions permitting) and
Ground Station Display.

REGISTRATION INCLUDES:

All events at the Symposium, two meals on Saturday, and a copy of the Proceedings. Two options are available for each meal. The Saturday luncheon choices are Lemon Chicken or Chopped Sirloin. The Saturday evening banquet choices are Chicken Cordon-Bleu or London Broil. Special diet needs will be met on an individual basis. Please specify menu choices and special diet needs on the attached registration form.

LODGING:

Applicants must call Holiday Inn direct (303) 371-9494 for reservations. Mention the EOSS National Balloon Symposium for symposium rates. Rooms confirmed before August 8 are \$57.00 + tax (single or double). Special rates after August 8 on space available

basis only. Applicants are responsible for rooms, taxes and incidentals.

CALL FOR PAPERS:

EOSS invites balloon experimenters, educators, authors and scientists involved with high altitude balloon experiments to provide papers and presentations at the National Balloon Symposium. Papers should be submitted in electronic form. For additional information, contact Ann Trudeau, 15487 E. Bates Ave., Aurora CO 80013, (303) 690-1669.

FOR ADDITIONAL INFORMATION:

Contact Ted Cline, NØRQV, ted_cline@hplsl.lvld.hp.com .

Date: 21 May 93 08:46 CDT

From: usc!howland.reston.ans.net!gatech!swrinde!emory!sol.ctr.columbia.edu!

news.kei.com!news.oc.com!utacfd.uta.edu!trsvax!trsvax!rpo@network.UCSD.EDU

Subject: packet connections for HT HTX202?

To: info-hams@ucsd.edu

2.2k is correct.

Paul Opitz

Radio Shack Publications

Date: Sat, 22 May 1993 01:58:09 GMT

From: swrinde!gatech!howland.reston.ans.net!agate!news.ucdavis.edu!

othello.ucdavis.edu!ez006683@network.UCSD.EDU

Subject: Quagi antenna polarization question

To: info-hams@ucsd.edu

jdc3538@ulthb.isc.rit.edu (J.D. Cronin) writes:

:
:

: On Quagi antenna's, what affect does directed-element
: orientation have on polarization and gain?

:

: For example, a bottom-fed loop gives horizontal polarization,
: and a side-fed loop gives vertical.

:

: But do the directed elements have to "agree" with the loop's
: polarization? Are horizontal elements on a vertically-polarized
: antenna as effective as vertical elements on the same antenna?

:

Well since the directors and reflectors aren't fed with anything it will make no difference.

Dan

--

```
*-----*
* Daniel D. Todd      Packet: KC6UUD@WA6RDH.#nocal.ca.usa      *
*                      Internet: DDTODD@ucdavis.edu             *
*                      Snail Mail: 1750 Hanover #102            *
*                      Davis CA 95616                          *
*-----*
*      I do not speak for the University of California....    *
*      and it sure as hell doesn't speak for me!!            *
*-----*
```

Date: Sat, 22 May 1993 05:04:13 GMT
From: pa.dec.com!nnTPd2.cxo.dec.com!nuts2u.enet.dec.com!little@decwrl.dec.com
Subject: Quagi antenna polarization question
To: info-hams@ucsd.edu

jdc3538@ulTB.isc.rit.edu (J.D. Cronin) writes:

>On Quagi antenna's, what affect does directed-element
>orientation have on polarization and gain?

Directors on a quagi need to be oriented the same way as the driven element is fed, i.e. horizontal directors if the driven element is fed at the top or bottom, and vertical directors if the driven element is fed from the side.

>But do the directed elements have to "agree" with the loop's
>polarization? Are horizontal elements on a vertically-polarized
>antenna as effective as vertical elements on the same antenna?

Yes, otherwise the directors won't help the primary polarization. Quagis tend to not have pure horizontal or vertical polarization, so mis-oriented directors will act on the minor (secondary?) orientation only and not the major portion of the signal.

>Thanks...Jim

>(no call letters yet, I'm still in the 8-week waiting period)

Congrats! Welcome to the hobby and don't forget your armor ;-)

73,
Todd
N9MWB

Date: 21 May 1993 19:52:25 -0700
From: olivea@apple.com!apple.com!not-for-mail@uunet.uu.net
Subject: Question: Can a novice take the extra test?
To: info-hams@ucsd.edu

jmcoving@unccsun.uncc.edu (John Covington WN4BBJ) writes:

>In article <1tjbru\$1rm@charm.magnus.acs.ohio-state.edu> ksampath@magnus.acs.ohio-state.edu (Krishna S Sampath) writes:

>>the subject says it. assuming that the novice has 20 wpm cw, can the ham
>>take the extra test?

>Anyone, even an unlicensed person, that is eligible to be an Amateur Radio
>Operator can take the Extra test. It used to be that you had to hold a
>General or Advanced license for 2 years before you could take the Extra,
>but that requirement was done away with about 1976. If you're ready go
>ahead and take the test!

The local ARRL-VEC-affiliated VEs would not administer the Extra written unless there is proof that you have passed the Advanced written. But there is nothing to stop one from taking all the written tests, starting from the Novice written, in a single sitting.

However, they will administer the 20 wpm code test without your having passed the 13 wpm, or even the 5 wpm. In fact, they seem to encourage people to try for the higher code speeds anyway, since many people seem to be capable of faster code than they imagined.

73,

Kok Chen, AA6TY
Apple Computer, Inc.

kchen@apple.com

Date: Sat, 22 May 1993 03:58:20 GMT
From: munnari.oz.au!spool.mu.edu!howland.reston.ans.net!ux1.cso.uiuc.edu!uchinews!spssig.spss.com!feenix.metronet.com!marcbg@network.UCSD.EDU
Subject: Repeater Questions
To: info-hams@ucsd.edu

In article <nick.4pwk@hotmail.COM> nick@hotmail.COM (Nick Assar) writes:
>1) Does one need a repeater license to setup and operate a repeater?

Your amateur license is all that is necessary to set up a repeater. A Technician or greater license is required to be a repeater trustee, that is, be responsible for the repeater and have your call sign on it.

However, there are frequency coordinators in each state who will assign you a frequency for your area. The coordinators are volunteers who assign repeater pairs on the basis of location - how close are you to other repeaters, how high your site is, how far will you cover, etc. Also, there must be a pair available. In most major metropolitan areas, all 2 Meter and 440 MHz repeater pairs are taken. But check with your coordinator first to make sure. Call the ARRL for the coordinator in your area or pick up an ARRL repeater directory for a complete listing of coordinators.

>2) Are duplexers necessary? Can I just install 2 antennas (1 for receiving and >1 for transmitting)?

You can install two antennas providing you have the are to do it in. There are many variables at work here - what frequency you'll be at, how much power will you be transmitting, how good is your receiver. The ARRL Handbook has a good basic discussion of this topic.

>3) How high up do I need to put it so it will cover 30 miles?

Also, a question which has many variables - where are you located? Are there many tall buildings? Are you in a valley? But, generally speaking, a repeater in a good location should have a 30 mile radius - HOWEVER, that really depends on:

- Repeater location

- Repeater power

- Receiver sensitivity

- Antenna type

- Coax type

- Proximity to tall objects (is there a tall building or mountain range in your path)

There's probably a few dozen other items I forgot to mention.

Once again, I refer you to the ARRL handbook which has a good section on repeaters, duplexers, separate antennas, etc.

Then, there's the repeater owner's creed:

- Repeaters are fun

- To talk to your friends

- When it works well

- The fun never ends

Have fun

— —

•

•

— —

```
*-----*
```

```
* Daniel D. Todd      Packet: KC6UUD@WA6RDH.#nocal.ca.usa      *
```

```
*                   Internet: DDTODD@ucdavis.edu                *
```

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*                   Snail Mail: 1750 Hanover #102               *
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*                   Davis CA 95616                             *
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*-----*
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```
*       I do not speak for the University of California....    *
```

```
*       and it sure as hell doesn't speak for me!!            *
```

Date: Thu, 20 May 93 14:12:10 +1200
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!wupost!
waikato.ac.nz!comp.vuw.ac.nz!cc-server4.massey.ac.nz!acmebbs!dogbox!
dogbowl@network.UCSD.EDU
Subject: RFI from ZyXEL modem to 2way radio
To: info-hams@ucsd.edu

tpang@fraser.sfu.ca (Tsui Ting Debbie Pang) writes:

> ZyXEL U-1496E is a high-speed external modem, which uses a 68000 uP and
> 2 DSP chips at 13MHz and 40MHz respectively, inside a plastic case with
> no metal/iron RFI shielding. How does it pass FCC as class B?

It doesn't. If you look at the label and the manual, you'll find
that it's FCC class A.

> I will be doing some mods to my ZyXEL, so I want to know, for convenience
> sake, if I could add some metal/iron to shield the ZyXEL plastic case,
> internally or externally (ugly :). Is it just e-field to be shielded,
> i.e. Aluminum foil is ok. Or magnetic field? which I need iron/steel to
> do?

Buy a can of nickel shielding spray. The stuff I used was branded
"Electrolube" and is made in the UK.

The spray is easier to use than trying to stick down foil or make
metal shields, and being nickel, also shields the magnetic component
of the emitted EM noise.

Remove all components from inside the case and mask off all holes and edges.
Spray the inside of the case and let dry.

Viola! You have just reduced emissions by 20dB+

If you want to, add a couple of copper fingers from the groundplane
of the PCB which will make contact with the upper and lower case
halves. I found that they weren't necessary in my case - the
reduction in emissions from simply shielding the case was sufficient
for my requirements.

NOTE: You have probably just voided the modem's warrenty by spraying
the case. You'll definitely void it if you go near the PCB
with a soldering iron

Now all you need to do is get a shielded rs232 lead and put a choke on the phone and power cords. (If needed)

To really cut down on emissions from your computer system, ALL leads should be shielded, and choked at both ends.

--

Alan Brown
dogbowl@dogbox.acme.gen.nz

Date: 22 May 93 08:26:02 CST
From: sdd.hp.com!usc!zaphod.mps.ohio-state.edu!menudo.uh.edu!ccsvax.sfasu.edu!
f_speerjr@network.UCSD.EDU
To: info-hams@ucsd.edu

References <1993May20.001429.11199@physics.unr.edu>,
<C7Cs0t.Hyp@srgenprp.sr.hp.com>, <1993May21.150819.478@ke4zv.uucp>
Subject : Re: A Yagi at 11,000 feet

>
> I don't think the conductivity of ice has much to do with it. The real
> issue is the dielectric constant of ice. Anybody have a reference handy?
> That could drastically change the tuning of an antenna laid on ice.
>
> Gary

The current *Handbook* (p. 2-13) defines "dielectric constant of x" as the ratio of the capacitance of some capacitor with x between the plates to the capacitance of that same capacitor with air between the plates. Isn't that ratio a function of the conductivity of x??

In any event, most antenna calculations with which I'm aware deal with the conductivity rather than the dielectric constant of ground...e.g. the current *Handbook* on p.17-2 displays a chart showing the effect of ground on radiation angle *assuming a perfectly conducting ground*. Similarly, I believe calculations about antennas in "free space" assume something like a "perfectly NON-conducting 'ground.'" "

As another poster has noted, pure water is a VERY poor conductor. Unless this ice is substantially contaminated, I'll bet an antenna laid right on top of it will work wonderfully.

Cheers,

Jim K5YUT

End of Info-Hams Digest V93 #625
